

# **EPA Region 2 Coral Reef Protection Plan – Fiscal Year 2014 September 2013**



St. Thomas, USVI

## **I. Overview**

EPA Region 2 developed the Coral Reef Protection Plan to increase coral reef protection in the U.S. Virgin Islands (USVI) and Puerto Rico (PR). Coral reef ecosystems are being severely impacted by climate change, overfishing, sediment runoff, pollution, and disease. In the presence of rising sea surface temperatures and ocean acidification, corals are more susceptible to adverse impacts from local stressors. To address some of these adverse impacts, The Environmental Protection Agency (EPA) Region 2 will strategically apply its regulatory and non-regulatory programs to reduce pollution (sedimentation, nutrients, and pathogens) that leads to eutrophication and the degradation of coastal waters and coral reef ecosystems. Improving coral health restores their natural resilience, and helps them better defend against climate change stresses. Other local and federal agencies are implementing coral protection and conservation strategies, and we will seek to collaborate and to integrate our efforts with on-going coral protection initiatives.

The following plan presents a regional strategy for communications with local and federal organizations involved with coral protection, and a series of “direct” actions that EPA Region 2 will employ to address threats to coral reef ecosystems. It also includes activities and programs that we will target for future implementation. The region will review and revise this plan annually.

## **II. Elements of the Plan**

### **A. Inter/Intra-agency Communication**

Active communication is essential to developing and monitoring coral protection actions. A major element of this plan is to receive better local information to help the region focus on the most significant coral threats as they emerge. We have established the Caribbean Coral Reef Protection Group, an interagency partnership to foster EPA integration with existing local initiatives and strategies for coral conservation and protection. In addition, we will remain active in the U.S. Coral Reef Task Force. Internally, we have established an EPA Region 2 Coral Protection Team to coordinate regional efforts to respond to identified threats.

#### **1. Caribbean Coral Reef Protection Group.**

EPA initiated the Caribbean Coral Reef Protection Group (CCRPG), an interagency partnership composed of members from territorial and federal agencies. The membership currently includes the Puerto Rico Department of Natural and Environmental Resources (PR DNER), the Puerto Rico Environmental Quality Board (PR EQB), the U.S. Virgin Islands Department of Planning and Natural Resources (DPNR), the National Oceanic and Atmospheric Administration (NOAA), the National Park Service (NPS), the United States Coast Guard (USCG), the United States Department of Agriculture's Natural Resources Conservation Service (NRCS), the United States Environmental Protection Agency (EPA), the United States Fish and Wildlife Service (USFWS), and the United States Geological Survey (USGS). The EPA Region 2 Administrator, in conjunction with executive representatives from the member agencies, convened a kickoff meeting in February 2013 in St. Croix, USVI to engage our agencies' joint efforts to protect coral reef ecosystems. All members agreed to develop this partnership. The group drafted a memorandum of understanding to define the mutually beneficial working relationship between members, and will articulate objectives for collaboration in protecting and conserving coral reef ecosystems in Puerto Rico and the U.S. Virgin Islands. The CCRPG is structured in the following two tiers.

##### ***a) Principals Committee.***

The Principals Committee is an executive committee of member agency lead administrators who will provide leadership and support for the activities undertaken by the CCRPG. This committee is composed of secretaries, commissioners, and directors of member agencies. The Principals will meet annually.

***b) The Working Group.***

The Working Group is composed of staff scientists and managers who will maintain communications on ongoing issues and efforts involved with coral reef protection and conservation, and will strive to develop collaborative actions and strategies to reduce threats to the coral reef ecosystem. The members are listed below. This group will hold regularly scheduled and as-needed conference calls.

Area	Point of Contact	Organization	Phone	Email
VI	Jean-Pierre Oriol	DPNR CZM	340-774-3320 x5116	<a href="mailto:jp.oriol@dpr.gov.vi">jp.oriol@dpr.gov.vi</a>
VI	Anita Nibbs	DPNR EP	340-773-1082 x2308	<a href="mailto:anita.nibbs@dpr.gov.vi">anita.nibbs@dpr.gov.vi</a>
VI	Jim Casey	EPA Region 2	340-714-2333	<a href="mailto:casey.jim@epa.gov">casey.jim@epa.gov</a>
VI	Marlon Hibbert	NOAA	340-244-2339	<a href="mailto:marlon.hibbert@noaa.gov">marlon.hibbert@noaa.gov</a>
VI	Matt Patterson	NPS	340-693-8950 x227	<a href="mailto:matt_patterson@nps.gov">matt_patterson@nps.gov</a>
VI	Caroline Rogers	USGS	340-693-8950 x221	<a href="mailto:caroline_rogers@usgs.gov">caroline_rogers@usgs.gov</a>
PR	Damaris Delgado	PR DNER	787-999-2200 x2615	<a href="mailto:ddelgado@drna.gobierno.pr">ddelgado@drna.gobierno.pr</a>
PR	David Cuevas	EPA Region 2	787-977-5856	<a href="mailto:cuevas.david@epa.gov">cuevas.david@epa.gov</a>
PR	Evelyn Huertas	EPA Region 2	787-977-5852	<a href="mailto:huertas.evelyn@epa.gov">huertas.evelyn@epa.gov</a>
PR	Angel Melendez	PR EQB	787-767-8181 x3552	<a href="mailto:AngelMelendez@jca.gobierno.pr">AngelMelendez@jca.gobierno.pr</a>
PR	Antares Ramos	NOAA	787-365-3128	<a href="mailto:antares.ramos@noaa.gov">antares.ramos@noaa.gov</a>
PR	Edwin Almodovar	NRCS	787-766-5206 x1	<a href="mailto:edwin.a.almodovar@pr.usda.gov">edwin.a.almodovar@pr.usda.gov</a>
PR/VI	Sherri Fields	NPS	404-507-5807	<a href="mailto:sherri_fields@nps.gov">sherri_fields@nps.gov</a>
PR/VI	Lisa Garrett	NPS	404-507-5820	<a href="mailto:lisa_garrett@nps.gov">lisa_garrett@nps.gov</a>
PR/VI	Dana Wusinich-Mendez	NOAA	954-262-3762	<a href="mailto:dana.wusinich-mendez@noaa.gov">dana.wusinich-mendez@noaa.gov</a>
PR/VI	Bret Wolfe	U.S.F&WS	703-358-2158	<a href="mailto:bret_wolfe@fws.gov">bret_wolfe@fws.gov</a>
PR/VI	Craig Goodwin	NRCS	202-205-7711	<a href="mailto:Craig.Goodwin@one.usda.gov">Craig.Goodwin@one.usda.gov</a>
PR/VI	David Sands	USCG	305-278-6767	<a href="mailto:David.R.Sands@uscg.mil">David.R.Sands@uscg.mil</a>
PR/VI	Patricia Bradley	EPA ORD	305-809-4690	<a href="mailto:Bradley.Patricia@epa.gov">Bradley.Patricia@epa.gov</a>
PR/VI	David Cuevas	EPA Region 2	787-977-5856	<a href="mailto:cuevas.david@epa.gov">cuevas.david@epa.gov</a>
PR/VI	Alyssa Arcaya	EPA Region 2	212-637-3730	<a href="mailto:Arcaya.alysa@epa.gov">Arcaya.alysa@epa.gov</a>
PR/VI	Charles LoBue	EPA Region 2	212-637-3798	<a href="mailto:lobue.charles@epa.gov">lobue.charles@epa.gov</a>

EPA Region 2 points of contact (POCs) will ensure that communications with all members remain interactive. David Cuevas, Evelyn Huertas, Jim Casey and Charles LoBue will be available and receptive to all communications with PR and USVI jurisdiction POCs. David Cuevas will be the lead Caribbean POC, and will retain focus on all coral reef ecosystem issues in PR and USVI. Charles LoBue will be the Region 2 lead POC, and will be the liaison to Region 2 program leads for delegation of Regional action.

**2. EPA Region 2 Coral Protection Team.**

Internal EPA communications will be maintained through the Coral Protection Team (CPT), a team of Caribbean-focused staff from the Clean Water Division (CWD), Caribbean Environmental Protection Division (CEPD), and the Office of Research and Development (ORD)

who have regular interaction with interagency partners in matters of watershed and coastal protection.

The CPT will conduct bi-weekly conference calls to discuss and monitor the issues and actions presented by the territorial contacts, and to communicate appropriate Regional program responsibility.

## **B. Activities Management and Tracking**

The CPT will refer proposed responses and actions to management to direct the appropriate Region 2 program staff. An Excel spreadsheet provides a matrix of regulatory authorities and contacts for the coral threat and responses. This matrix will be a living document, maintained by the Coral Protection Team Leader, to track direct actions and emerging issues that are identified by the interagency communications.

## **C. Direct actions**

Following is a list of actions that are either currently in progress or can be implemented immediately.

### **1. USVI Cruzan Rum Untreated Discharge.**

Monitor compliance with the Cruzan Rum Territorial Pollutant Discharge Elimination System (TPDES) permit schedule to ensure implementation of appropriate treatment of industrial wastes from the manufacture of rum through the new treatment plant. Cruzan Rum is operating under a discharge permit issued by the DPNR, which included a compliance schedule for installing the treatment system. The treatment system has been constructed, and Cruzan Rum is in the process of start-up of operations for the treatment system. EPA Region 2 is working with DPNR to ensure that Cruzan Rum is in compliance with the current TPDES permit, and complying with permit conditions for the draft renewal permit. Region 2 will monitor and enforce compliance with the schedule for ramping up operations to full-time operation of the treatment system, and complete elimination of untreated discharge. **Lead: Clean Water Division (CWD)/NPDES Section (NS)**

### **2. USVI Sewage Discharge into Coastal Waters.**

Monitor USVI Waste Management Authority's (WMA) progress in reducing sewer overflows through upgrade of pump stations and collection systems, as ordered by the USVI Wastewater Consent Decree. The EPA Regional Administrator (RA) and Office of Regional Council (ORC) have established a process for proactively pursuing judicial actions to enforce complete system-wide

renovation of the malfunctioning sewage collection and pumping infrastructure. The RA has established an internal working group composed of members of Caribbean Environmental Protection Division (CEPD), ORC, Division of Enforcement and Compliance and Assistance (DECA), CWD, and Office of the RA (ORA), to remain actively connected and committed to pursuing compliance of all aspects of proper functioning of the St. Croix sewage infrastructure, including compliance, reporting, and monitoring. **Lead: CEPD/Municipal Water Program Branch (MWPB)**

### **3. USVI No Discharge Zone.**

Lead discussions with USVI agencies and stakeholders regarding the USVI government's potential designation of no discharge zones (NDZs) for sewage waste from boats in USVI coastal waters. EPA is encouraging DPNR to pursue Clean Vessel Act grant programs resources and is providing technical assistance on how to prepare the information needed for a USVI NDZ petition. **Lead: CWD/NS; CEPD/VI Coordinator**

### **4. USVI Reduction of Nonpoint Source Pollutants into Coastal Areas.**

Work closely with DPNR's Division of Building Permits to support the implementation of its nonpoint source permitting program to address all land disturbing activities, with a particular focus on activities to mitigate the impacts of sedimentation on coral reefs. **Lead: CWD/Watershed Management Branch (WMB)**

### **5. USVI Environmental Handbook.**

Identify funding and provide technical expertise to NOAA's project to revise the manual for designing storm water controls for construction practices. **Lead: CWD/Dredging, Sediments and Oceans Section (DSOS)**

### **6. PR Storm Water Runoff from Municipalities, Construction Sites and Other Point Sources.**

Target compliance inspections and enforcement of storm water discharges regulated under the National Pollutant Discharge Elimination System (NPDES) program in areas where discharges occur directly to coral reef areas. This would include inspections at construction sites, municipal small storm water systems, animal feeding operations, and other industrial sources. A coral areas priority list could be developed with other partners to assist with targeting actions. **Lead: CEPD/Multi Media Permits and Compliance Branch (MPCB)**

#### 7. PR Discharges from Unsewered Areas into Coastal Waters.

A very significant cause of stress to coral reefs is failing on-site wastewater disposal systems (septic systems). The program is strategizing on how to deal with this problem through two different approaches. The first approach examines the existing on-site systems and develops practical solutions to improve the operation of existing failed systems and eliminate discharges to the maximum extent practical. The second approach involves correcting the ineffective regulatory process through which new systems are planned, designed, constructed and operated. In addition, CEPD will continue its efforts to obtain Supplemental Environmental Projects as part of enforcement efforts, which will result in a reduction of nutrients and pathogens to coastal waters. **Lead: CEPD/MPCB**

#### 8. Wastewater Discharges near Endangered Species Act (ESA)-listed coral species, Vega Baja, PR.

Thickets of ESA-listed coral species, *Acropora palmata*, are being threatened by wastewater discharges in Vega Baja, PR. Healthy *A. palmata* coral communities have been documented near the Puerto Nuevo Beach, where wastewater discharges have been sited. After several site visits, CEPD compliance inspectors identified two major areas of concern where untreated wastewater was observed flowing into waters of the United States. CEPD issued a Compliance Order to PRASA to take corrective measures and stop these discharges. CEPD will monitor the compliance order to confirm abatement of the discharges, and engage the Municipality of Vega Baja, since these discharges have been flowing into its MS4 system and then into the Atlantic Ocean. **Lead: CEPD/MWPB**

#### 9. Region 2/Office of Research and Development (ORD) Research Partnering.

EPA (Region 2 and Gulf Ecology Division) submitted a proposal for funding through the Regional Sustainable Environmental Sciences Research program to increase public and community awareness of sanitation issues in Puerto Rico's lower Guánica Bay watershed. The U.S. Coral Reef Task Force selected Guánica as its first watershed initiative project to protect coral reefs. It is believed that sediment and nutrient from human land use and activities in the watershed are transported downstream through Guánica Bay and onto the coastal reefs, causing damage and degradation of reefs near Guánica Bay and the neighboring tourist town of La Parguera. The objective of this project is to increase public and community awareness of sanitation issues in the lower Guánica watershed by initiating citizen surveys of water quality and sewage infrastructure. As a part of the Region 2 Citizen Science Program, groups of citizen volunteers will be trained to collect water samples from targeted locations throughout the Guánica Bay/Rio Loco area. **Lead: CEPD/MPCB**

#### 10. PR and USVI Green Marinas.

EPA Region 2 through CEPD will continue to promote the Green Marina Program by conducting environmental outreach activities in the USVI to encourage adoption of best management practices for the marina and recreational boating facilities in VI. With a parallel effort, CEPD will also conduct inspections at marina facilities in PR and VI according to the CEPD-MPCB's work plan, and as resources allow, to ensure compliance with relevant federal regulations (e.g., NPDES-regulated storm water discharges). **Lead: CEPD/MPCB**

#### 11. Public Outreach.

The Public Affairs Division (PAD) will develop the following outreach activities with the assistance of the Coral Reef Team. **Lead: PAD/Public Outreach Branch (POB);CEPD/Division Office**

##### *a) Working with Other Organizations.*

The Region will reach out to local individuals and organizations to coordinate efforts to promote coral reef protection, including the Puerto Rico Chapter of the Sierra Club, the Conservation Trust of Puerto Rico, SeaGrant, the Coral Bay Community Council of the U.S.V.I., and USVI Congressional Delegate Donna Christensen. We will develop forums, such as community meetings or webinars, for engaging nongovernmental organizations (NGOs) that can assist in carrying out EPA protective actions. In addition, Region 2 will compile and maintain a mailing list of interested NGOs. The Region will also explore ways, through our existing *Memorandum of Understanding with the Puerto Rico Tourism Company and the Puerto Rico Solid Waste Authority*, to reach out to the tourism industry to find creative ways to publicize coral protection and sustainability, including the possibility of highlighting the work of "green" hotels who have adopted coral reef-friendly practices.

##### *b) Coral Reefs Webpage (e.g. [epa.gov/coralreefs](http://epa.gov/coralreefs)).*

PAD will advocate for the development of an integrated coral reef webpage. This page would serve as a platform for all information regarding EPA and Region 2's coral protection efforts and what individuals and community groups can do to help protect coral reefs

##### *c) Social media.*

R2's Facebook and Twitter accounts will be used to promote the Regional coral protection efforts, and to bring web traffic to EPA coral reef resources.

##### *d) Newspapers.*

PAD will write op-ed articles, on behalf of the Regional Administrator, and then pitch to newspapers in Puerto Rico and the U.S. Virgin Islands to correspond with RA's visit. These will be written to increase public awareness of the value and fragility of the coral reef resource and how everyday activities can impact it.



## **D. Long-term Actions and Emerging Issues and Actions**

The actions identified below, involving the Water Quality Program, Biological Criteria implementation, and other emerging issues, will be monitored or pursued on a longer-term. The water quality program plays a critical role in assessing water quality impairments that are contributing to coral declines. Upgrading water quality standards and applying regulatory coral biological criteria will be used to measure coastal waters for impairment. Listing impaired waters under Section 303(d) of the Clean Water Act, and subsequent development of pollutant total maximum daily loads, will drive future actions to reduce pollution.

### **1. Revise the USVI's Water Quality Standards Regulations (WQSR).**

Continue to encourage DPNR to revise some of the numeric water quality standards to make them specifically protective of coral reefs. This action is a result of the comments provided by the Fish and Wildlife Services to DPNR during the Endangered Species Act consultation on the 2010 triennial WQSR revisions. We will encourage the DPNR to adopt these criteria during the upcoming triennial WQSR review process scheduled to be completed by the end of 2013. **Lead: CWD/CWRB/TMDLS Section (TS)**

### **2. Implement Biocriteria Monitoring in USVI.**

DPNR has written narrative biological criteria into its water quality standards, which describe the desired condition of coral reefs dependent on their location and associated use classification. Staff scientists have been trained in coral monitoring protocols, but DPNR lacks sufficient staff to pursue this at this time. The VI DPNR has entered into a MOA with The Nature Conservancy and has close technical ties to University of the Virgin Islands (UVI) for technical support. Next steps are for Region 2 to encourage periodic monitoring, to develop relationships between specific water quality parameters and coral condition so that the narrative biological criteria can be used as a measure for assessment and potential 303(d) listing. A longer term goal is to derive numeric biological criteria as well as more applicable numeric criteria for causal parameters, such as nutrients, clean sediment and temperature, which will allow for more refined assessments and decision making regarding restoration of coral reefs. **Lead: CWD/CWRB/TS**

### **3. Establish CWA Biocriteria in Puerto Rico.**

EQB has expressed interest in using coral biocriteria to monitor coastal waters, but has insufficient staff to maintain coral monitoring. Teaming with PR DNER and universities (University of Puerto Rico, Catholic University of Ponce, and Polytechnic University), we may be able to increase scientific capacity. We will convene a conference call with PR EQB, PR DNER, ORD, and the universities to discuss the principles of coral monitoring protocols and thresholds of acceptability. Consistent with the outcome in the USVI, the initial goal is the development of narrative biological criteria, which can be used as the basis for future assessment and decision making. **Lead: CWD/CWRB/TS**



#### 4. Coral reef condition thresholds for the Caribbean.

EPA ORD, in collaboration with the Office of Water and Region 2, has assembled a panel of coral reef experts with expertise in coral reef taxonomic groups (e.g., stony corals, fishes, sponges, gorgonians, algae, seagrasses and macroinvertebrates), as well as community structure, organism condition, ecosystem function and ecosystem connectivity. The expert panel is developing a framework that illustrates a range of biological responses that can result from human disturbance – the coral reef biological condition gradient (BCG). The expert panel is establishing levels of condition, with a consistent well-defined narrative for each level, and a process for translating specific metric scores into levels. Levels can be aligned with designated aquatic life uses in water quality standards and can be used as targets for protection and restoration. Reef assessment data, photos and videos from federal, territorial, academic and NGO surveys and monitoring programs will be included in a US Caribbean coral reefs database that will reside on STORET. Completion of the BCG will require a series of facilitated workshops and webinars with this group of coral reef experts. Thus far, the expert panel met in 2012 and is meeting again in October 2013. **Lead: ORD**

#### 5. Revisions to the PR Water Quality Standards Regulations (WQSR).

We will encourage the PR EQB to revise some of the numeric water quality standards to make them specifically protective of coral reefs. We will encourage PR EQB to adopt these revisions during the upcoming triennial WQSR review process scheduled to be completed by the end of 2013. **Lead: CWD/CWRB/NS**

#### 6. USVI Municipal Storm Water Permit for Charlotte Amalie, St. Thomas.

CWD/NS will lead discussions with USVI DPNR to designate Charlotte Amalie, St. Thomas, as a regulated municipal separate storm sewer system (MS4), and to issue a TPDES MS4 permit that requires the minimum control measures required by NPDES regulations for municipal storm water. These control measures establish management practices that prevent contamination of storm water, such as good housekeeping practices in municipal operations, public education and outreach, detection of illicit discharges, and storm water pollution prevention during construction. **Lead: CWD/NS; CEPD/MPCB**

#### 7. NPDES 2013 USVI Permit Quality Review.

In March 2013, CWD/NS completed the on-site portions of the USVI TPDES Permit Quality Review (PQR) and is currently drafting a report documenting the findings of the review. The purpose of the PQR is to assess whether an authorized program adequately implements the requirements of the NPDES Program, as reflected in the permits and other supporting documents. Through this mechanism, the EPA identifies opportunities for improvement in the development of NPDES permits and NPDES programs, and promotes national consistency. Coral reefs were included in the 2013 USVI PQR as a focus area, so EPA could better understand how USVI DPNR researches the potential impacts to threatened and endangered coral species when

developing a permit and, if present, how those species may be addressed in the permit. EPA will work with USVI TPDES program to resolve deficiencies identified in the PQR to strengthen the permitting process, where needed, to improve water quality. **Lead: CWD/NS**

#### **8. PR No Discharge Zone.**

CEPD and CWD/NS will pursue the establishment of No Discharge Zones in Puerto Rico. We will identify contacts at PR EQB and local agencies and any other relevant stakeholders. Region 2 actions in FY13 will focus on familiarizing the key players with the process involved with establishing NDZs, including determining vessel population information, identifying boat sewage pumpouts (and/or pumpout needs), pursuing USFWS funding for the construction of new pumpouts if needed, identifying the areas that would be designated as NDZs, and preparing the NDZ petition(s) when ready. We will also work towards developing a schedule for establishing the NDZs. **Lead: CEPD/MPCB; CWD/NS**

#### **9. Vieques and Culebra Ordnance.**

CWD/DSOS will remain in communication with ERRD/FFS regarding assessment and remediation of ordnance in Vieques and Culebra. **Lead: CWD/DSOS**

#### **10. Bovoni Landfill.**

A Consent Decree (CD), between the United States of America and the USVI Government, VIWMA, the Virgin Islands Port Authority, and Joseph and Zulma Hodge was entered by the U.S. District Court for the Virgin Islands in 2012 for failure to comply with two Administrative Orders on Consent relating to the operation of the Bovoni Landfill in a manner that may present “imminent and substantial endangerment to public health and the environment.” The CD requires closure of the landfill by 2021, and includes substantial engineering improvements that will limit the release of leachate seepage. The improvements include storm water controls and an impermeable landfill cover, as well as a ground water monitoring system at the landfill perimeter to detect any contaminants that may be released off-site. If contaminants are detected in significant concentrations, corrective action will be required under the Part 258 federal solid waste landfill regulations. Other improvements already implemented include a gas collection and control system and a landfill gas to energy system. The schedule for complete closure by 2021 is being monitored in the Region 2 Division of Enforcement and Compliance Assistance. CWD/DSOS will remain in communication with DECA/RCB/SET regarding status of the closure. **Lead: CWD/DSOS**